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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,589	03/29/2004	Eric Tomasetti	TR-6132 (BXTC 4021)	2100

7590 08/28/2007
Mr. Joseph B. Barrett
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Deerfield, IL 60015

EXAMINER

MCCLELLAND, KIMBERLY KEIL

ART UNIT	PAPER NUMBER
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1734

MAIL DATE	DELIVERY MODE
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08/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/811,589	Applicant(s) TOMASETTI ET AL.	
	Examiner Kimberly K. McClelland	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received:
 2. ☐ Certified copies of the priority documents have been received in Application No. _____
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0143352 A1 to Yang et al. in view of U.S. Patent No. 5,674,333 to Spencer.

3. With respect to claim 1, Yang et al. discloses a method for connecting flexible tubing wherein the tubing is placed in an axial end-to-end position (See Figures 2A and 2B), using a laser directed to heat the tube ends (paragraph 0068), and bringing them into contact with each other (paragraph 0071). However, Yang et al. does not specifically disclose maintaining interior passages of the two tubing sections so as to be free from exposure to the surrounding environment until and during welding.

4. Spencer discloses an apparatus for welding together two sections of tubing, including a method of welding two tubing sections together and maintaining interior passages of the two tubing sections so as to be free from exposure to the surrounding environment until and during welding (See Figures 5-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to maintain the tubing sections free from exposure to the environment until and during welding as taught by

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Spencer in the method of Yang et al. The motivation would have been to prevent contamination in the tubing or patient (column 5, lines 25-27).

5. As to claim 2, Yang et al. is silent as to the temperature of the tubing ends before the laser is activated. However, in order for the tubing to be in a solid state prior to the welding process, the temperature of the tubing ends must be below the melting temperature of the material forming the tubing section. Yang et al. discloses that the laser melts the tubing (paragraph 0069).

6. As to claim 3, Yang et al. discloses the use of a material (film) to absorb energy from the laser at the tube ends (paragraph 0072).

7. As to claim 4, Yang et al. discloses a sheet of material (film), which has a high concentration of dye to absorb energy of the laser (paragraph 0072).

8. As to claim 5, Yang et al. discloses that the tubing material is substantially transparent (not laser responsive) to the electromagnetic beam (paragraph 0127).

9. As to claim 6, Yang et al. discloses that the tubing sections are brought into contact (paragraph 0071) and flow outward when heated (paragraph 0072).

10. As to claim 7, Yang et al discloses that dye may be applied to the tube ends (areas to be joined) that are welded by the laser (paragraph 0129).

11. As to claim 8, Yang et al. discloses that the tubing sections are brought into contact (paragraph 0071).

12. As to claim 9, Yang et al. discloses a method for connecting two pieces of tubing as disclosed above. Yang et al. also discloses that all the welding method is carried out

in the axial position (See Figures 4A-4F). However, Yang does not disclose cutting off end portions of the tubing sections.

13. Spencer discloses an apparatus for welding together two sections of tubing, including a method of cutting of end sections of tubing prior to welding (column 3, lines 14-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a method of cutting the tubing sections prior to welding, as taught by Spencer, with the laser welding method of Yang et al. in the axial position in order to ensure proper connection during welding.

14. As to claim 16, Yang et al. discloses that the tubing sections are brought into contact (paragraph 0071), and flow outward (paragraph 0072).

15. As to claim 17, Yang et al. discloses that a laser is directed at the tube ends (paragraph 0068).

16. Claims 10-15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. and Spencer as applied to claims 1-9, 16, and 17 above, and further in view of U.S. Patent No 4,832,773 to Shaposka et al.

17. Yang et al. and Spencer disclose a method of welding tubing sections together. Spencer also teaches the method of squeezing the tubing sections to reopen the passage (column 3, lines 38-40). However, Yang et al. and Spencer do not disclose the clamping of the tubing.

18. As to claim 10, Shaposka et al. discloses a method for connecting sections of tubing, including clamping the cut (pre-cut) tubing sections (column 3, lines 48-51). It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to use a method of clamping the tubing sections, as taught by Shaposka et al., with the laser welding method of Yang et al. and Spencer to keep the tubing sections stationary.

19. As to claim 11, Yang et al. discloses sealing the tube ends prior to welding the tubing sections together (paragraph 0072).

20. As to claim 12, Yang et al. discloses the use of a weld block (drum head) to absorb energy from the laser and combine with the tube (paragraph 0072).

21. As to claim 13, Spencer teaches the method of squeezing the tubing sections to reopen the passage (column 3, lines 38-40).

22. As to claim 14, Spencer teaches the movement of welded tubing (weld sample) from one location (device) to a remote location (vise column 3, line 62- column 4, line 12).

23. As to claim 15, Yang et al. discloses that all the welding method is carried out in the axial position (See Figures 4A-4F).

24. As to claim 23, Yang et al. discloses the step of providing material for absorbing energy comprises positioning a sheet of material between the axial surfaces of the of the tubing sections (See Yang et al. paragraph 0066), wherein the sheets are capable absorbing the energy of the electromagnetic beam (See Yang et al. paragraph 0072).

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25. Claims 18-20, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,345,070 to Hlavinka et al. in view of U.S. Patent No. 5,501,759 to Forman.

26. With respect to claim 18, Hlavinka et al. discloses a radio frequency tubing sealer, including clamping at least a portion of the tubing section (See Figures 2-3); placing the collapsed portion of the tubing section in contact with an energy absorption member (12); directing a beam of electromagnetic energy onto the energy absorption member (column 5, lines 11-13), the energy absorption member being constructed for absorbing energy from the beam (column 4, lines 18-26); and transferring heat from the energy absorption member to the collapsed tubing section portion by contact therewith to melt and seal the collapsed tubing section portion in its collapsed configuration (column 5, lines 25-35). However, Hlavinka et al. does not specifically disclose a collapsed portion of the tubing section extends past the clamped portion.

27. Forman discloses a laser bonding method, including clamping at least a portion of the tubing section such that a collapsed portion of the tubing section extends past the clamped portion (See Figure 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to clamp the tubing section of Hlavinka et al. such that a collapsed portion extends past the clamped portion as taught by Forman. The motivation would have been to reduce the likelihood of leaks after welding.

28. As to claim 19, Hlavinka et al. discloses the energy absorption member has low thermal conductivity (column 4, lines 15-18).

29. As to claim 20, Hlavinka et al. discloses the energy absorption member comprises a block (column 5, lines 36-41; See Figure 5).

30. As to claim 22, Hlavinka et al. discloses the energy absorption member is a film (column 4, lines 41-46).

31. As to claim 24, Hlavinka et al. does not specifically disclose the collapsed portion of the tubing section is an end in the tubing section.

32. Forman discloses a laser bonding method, including the collapsed portion of the tubing section is an end in the tubing section (See Figure 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the tube end section taught by Forman with the tubing sealing method disclosed by Hlavinka et al. The motivation would have been to allow for sealing at any location along a piece of tubing.

33. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,345,070 to Hlavinka et al. in view of U.S. Patent No. 5,501,759 to Forman as applied to claims 18-20, 22, and 24 above, and further in view of U.S. Patent Application Publication No. 2003/0226631 to Sterud et al.

34. Hlavinka et al. discloses an electromagnetic sealing method as taught above. Hlavinka also discloses the energy absorption member is an insulating material and more preferably polypropylene (column 4, lines 26-40). However, Hlavinka et al. do not teach the use of glass or polytetrafluoroethylene energy absorption members.

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35. As to claim 21, Sterud discloses a welding method, including using weld blocks (sleeve) of glass or polytetrafluoroethylene (See Paragraph 0086). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass or polytetrafluoroethylene taught by Sterud et al. with the sleeve of the tubing sealing method of Hlavinka et al. to use amore rigid material, and ease movement of the tubing in the sleeve (See paragraph 0086).

Response to Arguments

36. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection. Applicant's remarks are exclusively drawn to the claims as amended. The introduction of new limitations in the current amendment to independent claims 1 and 18 necessitated the new grounds of rejection.

Conclusion

37. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly K. McClelland whose telephone number is (571) 272-2372. The examiner can normally be reached on 8:00 a.m.-5 p.m. Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip C. Tucker can be reached on (571)272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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